

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Withdrawn) A computer-implemented method comprising:
receiving user input drawing a paint stroke during a time period;
defining the paint stroke using a plurality of position values for the paint stroke based on the drawing;
defining the paint stroke using a plurality of time values for the paint stroke based on the drawing, the plurality of time values being in the time period and being associated with values for one or more stroke parameters, each stroke parameter value representing an appearance attribute of the stroke occurring at a time value;
associating the position values with a first set of the time values and respective stroke parameter values occurring in the time period;
modifying the stroke parameter values such that each stroke parameter value is associated with a second set of time values in the time period, the second set of time values being different from the first set of time values; and
storing the defined paint stroke.
2. (Cancelled)
3. (Withdrawn) The method of claim 1, wherein, the association of parameter values with time values is defined as a function.
4. (Withdrawn) The method of claim 3, wherein:
the function is piecewise linear.

5. (Withdrawn) The method of claim 3, wherein:
a different function is used for each parameter.
6. (Withdrawn) The method of claim 3, wherein:
the function is implemented as a table.
7. (Cancelled)
8. (Withdrawn) The method of claim 1, further comprising:
generating a first instance of the stroke;
changing the stroke by changing the time value associated with a parameter value;
generating a second instance of the stroke that corresponds to the changed
stroke; and
interpolating between the first and second instances to generate one or more additional
instances of the stroke.
9. (Withdrawn) The method of claim 8, wherein:
the first instance and the second instance each correspond to a keyframe of an animation,
the animation having an animation time frame, each keyframe corresponding to a time point in
animation time; and
the time value is changed as a function of animation time.
10. (Withdrawn) The method of claim 9, wherein, in the first instance or the second instance
of the stroke, not every parameter has a defined value.

11. (Withdrawn) A computer program product, tangibly stored on a computer-readable medium comprising instructions operable to cause a programmable processor to perform operations comprising:

receiving user input drawing a paint stroke during a time period;

defining the paint stroke using a plurality of position values for the paint stroke based on the drawing;

defining the paint stroke using a plurality of time values for the paint stroke based on the drawing, the plurality of time values being in the time period and being associated with values for one or more stroke parameters, each stroke parameter value representing an appearance attribute of the stroke occurring at a time value;

associating the position values with a first set of the time values and respective stroke parameter values occurring in the time period;

modifying the stroke parameter values such that each stroke parameter value is associated with a second set of time values in the time period, the second set of time values being different from the first set of time values; and
storing the defined paint stroke.

12. (Cancelled)

13. (Withdrawn) The product of claim 11, wherein, the association of parameter values with time values is defined as a function.

14. (Withdrawn) The product of claim 13, wherein:
the function is piecewise linear.

15. (Withdrawn) The product of claim 13, wherein:
a different function is used for each parameter.

16. (Withdrawn) The product of claim 13, wherein:
the function is implemented as a table.
17. (Cancelled)
18. (Withdrawn) The product of claim 11, further comprising:
generating a first instance of the stroke;
changing the stroke by changing the time value associated with a parameter value;
generating a second instance of the stroke that corresponds to the changed
stroke; and
interpolating between the first and second instances to generate one or more additional
instances of the stroke.
19. (Withdrawn) The product of claim 18, wherein:
the first instance and the second instance each correspond to a keyframe of an animation,
the animation having an animation time frame, each keyframe corresponding to a time point in
animation time; and
the time value is changed as a function of animation time.
20. (Withdrawn) The product of claim 19, wherein, in the first instance or the second
instance of the stroke, not every parameter has a defined value.
21. (Withdrawn) A system comprising:
receiving user input drawing a paint stroke during a time period;
defining the paint stroke using a plurality of position values for the paint stroke based on
the drawing;

defining the paint stroke using a plurality of time values for the paint stroke based on the drawing, the plurality of time values being in the time period and being associated with values for one or more stroke parameters, each stroke parameter value representing an appearance attribute of the stroke occurring at a time value;

associating the position values with a first set of the time values and respective stroke parameter values occurring in the time period;

modifying the stroke parameter values such that each stroke parameter value is associated with a second set of time values in the time period, the second set of time values being different from the first set of time values; and

storing the defined paint stroke.

22. (Withdrawn) The system of claim 21, wherein:

the association of parameter values with time values is defined as a piecewise linear function implemented as a table where a different function is used for each parameter.

23. (Withdrawn) The system of claim 21, further comprising:

means for generating a first instance of the stroke;

means for changing the stroke by changing the time value associated with a parameter value;

means for generating a second instance of the stroke that corresponds to the changed stroke; and

means for interpolating between the first and second instances to generate one or more additional instances of the stroke.

24. (Withdrawn) The system of claim 23, wherein:

the first instance and the second instance each correspond to a keyframe of an animation, the animation having an animation time frame, each keyframe corresponding to a time point in animation time; and

the time value is changed as a function of animation time.

25. (Withdrawn) The system of claim 24, wherein, in the first instance or the second instance of the stroke, not every parameter has a defined value.

26. (Currently Amended) A computer-implemented method comprising:

~~receiving user input drawing a paint stroke during a time period; —
associating a first set of time values in the time period with one or more parameter values, each of the one or more parameter values representing an appearance attribute of the paint stroke occurring at a time value; and~~

~~associating a second set of time values with the parameter values in the time period, the second set of time values being different from the first set of time values.~~

obtaining a composed paint stroke, the composed paint stroke having a stroke path and an appearance attribute, the stroke path being defined by a position-time association, the position-time association being an association between a plurality of position values and a first plurality of time values in a time period, the appearance attribute being defined by a parameter-time association, the parameter-time association being an association between a plurality of parameter values for the appearance attribute and a second plurality of time values in the time period, the second plurality of time values being variable independently of the first plurality of time values;

generating a first instance of the composed paint stroke based on the position-time association and the parameter-time association as obtained, where an instance of the composed paint stroke is defined as a plurality of composition time values, and a position value and a parameter value for each of the composition time values, and the position value and the parameter value for each of the composition time values are determined according to the position-time association and the parameter-time association of the composed paint stroke;

changing the composed paint stroke by changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values such

that the parameter-time association as changed differs from the parameter-time association as obtained;

generating a second instance of the composed paint stroke based on the position-time association as obtained and the parameter-time association as changed;

presenting the first instance and the second instance of the composed paint stroke on a display device in sequence such that the stroke path of the composed paint stroke remains stationary while the appearance attribute changes.

27. (Canceled)

28. (Previously Presented) The method of claim 26, wherein, the association of parameter values with time values is defined as a function.

29. (Previously Presented) The method of claim 28, wherein:
the function is piecewise linear.

30. (Previously Presented) The method of claim 28, wherein:
a different function is used for each parameter value.

31. (Previously Presented) The method of claim 28, wherein:
the function is implemented as a table.

32. (Currently Amended) The method of claim 26, further comprising:
~~generating a first instance of the paint stroke;~~
~~changing the paint stroke by changing the time value associated with a parameter value;~~
~~generating a second instance of the paint stroke that corresponds to the changed~~
paint stroke; and

interpolating between the first and second instances to generate one or more additional instances of the composed paint stroke and
presenting the one or more additional instances of the composed paint stroke on the
display device in sequence between the first instance and the second instance of the composed
paint stroke.

33. (Currently Amended) The method of claim 32, wherein:
the first instance and the second instance each corresponds to a keyframe of an animation, the animation having an animation time frame, each keyframe corresponding to a time point in animation time; and
the time value is changed as a function of animation time.

34. (Canceled)

35. (Currently Amended) ~~A computer program product, tangibly stored on a computer-readable medium having instructions stored thereon, which when executed by at least one processor, cause the comprising instructions operable to cause a programmable processor to perform operations comprising:~~

~~receiving user input drawing a paint stroke during a time period;—
associating a first set of time values in the time period with one or more parameter values, each of the one or more parameter values representing an appearance attribute of the paint stroke occurring at a time value; and~~

~~associating a second set of time values with the parameter values in the time period, the second set of time values being different from the first set of time values.~~

obtaining a composed paint stroke, the composed paint stroke having a stroke path and an appearance attribute, the stroke path being defined by a position-time association, the position-time association being an association between a plurality of position values and a first plurality of time values in a time period, the appearance attribute being defined by a parameter-time

association, the parameter-time association being an association between a plurality of parameter values for the appearance attribute and a second plurality of time values in the time period, the second plurality of time values being variable independently of the first plurality of time values;

generating a first instance of the composed paint stroke based on the position-time association and the parameter-time association as obtained, where an instance of the composed paint stroke is defined as a plurality of composition time values, and a position value and a parameter value for each of the composition time values, and the position value and the parameter value for each of the composition time values are determined according to the position-time association and the parameter-time association of the composed paint stroke;

changing the composed paint stroke by changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values such that the parameter-time association as changed differs from the parameter-time association as obtained;

generating a second instance of the composed paint stroke based on the position-time association as obtained and the parameter-time association as changed;

presenting the first instance and the second instance of the composed paint stroke on a display device in sequence such that the stroke path of the composed paint stroke remains stationary while the appearance attribute changes.

36. (Canceled)

37. (Currently Amended) The ~~product~~ computer-readable medium of claim 35, wherein, the association of parameter values with time values is defined as a function.

38. (Currently Amended) The ~~product~~ computer-readable medium of claim 37, wherein: the function is piecewise linear.

39. (Currently Amended) The ~~product~~ computer-readable medium of claim 37, wherein:

a different function is used for each parameter value.

40. (Currently Amended) The ~~product~~ computer-readable medium of claim 37, wherein:
the function is implemented as a table.

41. (Currently Amended) The ~~product~~ computer-readable medium of claim 35, wherein the
operations further comprises:

~~—generating a first instance of the paint stroke;~~
~~—changing the paint stroke by changing the time value associated with a parameter value;~~
~~—generating a second instance of the paint stroke that corresponds to the changed paint~~
~~stroke; and~~

interpolating between the first and second instances to generate one or more additional
instances of the composed paint stroke and

presenting the one or more additional instances of the composed paint stroke on the
display device in sequence between the first instance and the second instance of the composed
paint stroke.

42. (Currently Amended) The ~~product~~ computer-readable medium of claim 41, wherein:
the first instance and the second instance each corresponds to a keyframe of an
animation, the animation having an animation time frame, each keyframe corresponding to a
time point in animation time; and

the time value is changed as a function of animation time.

43. (Canceled)

44. (Currently Amended) A system comprising:
a display device; and

one or more processors capable of interacting with the display device and performing operations comprising:

~~receiving user input drawing a paint stroke during a time period;—~~

~~associating a first set of time values in the time period with one or more parameter values, each of the one or more parameter values representing an appearance attribute of the paint stroke occurring at a time value; and~~

~~associating a second set of time values with the parameter values in the time period, the second set of time values being different from the first set of time values.~~

obtaining a composed paint stroke, the composed paint stroke having a stroke path and an appearance attribute, the stroke path being defined by a position-time association, the position-time association being an association between a plurality of position values and a first plurality of time values in a time period, the appearance attribute being defined by a parameter-time association, the parameter-time association being an association between a plurality of parameter values for the appearance attribute and a second plurality of time values in the time period, the second plurality of time values being variable independently of the first plurality of time values;

generating a first instance of the composed paint stroke based on the position-time association and the parameter-time association as obtained, where an instance of the composed paint stroke is defined as a plurality of composition time values, and a position value and a parameter value for each of the composition time values, and the position value and the parameter value for each of the composition time values are determined according to the position-time association and the parameter-time association of the composed paint stroke;

changing the composed paint stroke by changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values such that the parameter-time association as changed differs from the parameter-time association as obtained;

generating a second instance of the composed paint stroke based on the position-time association as obtained and the parameter-time association as changed;

presenting the first instance and the second instance of the composed paint stroke on a display device in sequence such that the stroke path of the composed paint stroke remains stationary while the appearance attribute changes.

45. (Canceled)

46. (Previously Presented) The system of claim 44, wherein the association of parameter values with time values is defined as a function.

47. (Previously Presented) The system of claim 46, wherein:
the function is piecewise linear.

48. (Previously Presented) The system of claim 46, wherein:
a different function is used for each parameter value.

49. (Previously Presented) The product of claim 46, wherein:
the function is implemented as a table.

50. (Currently Amended) The system of claim 44, wherein the operations further comprises:

~~—generating a first instance of the paint stroke;~~
~~—changing the paint stroke by changing the time value associated with a parameter value;~~
~~—generating a second instance of the paint stroke that corresponds to the changed paint stroke; and~~

interpolating between the first and second instances to generate one or more additional instances of the composed paint stroke and

presenting the one or more additional instances of the composed paint stroke on the display device in sequence between the first instance and the second instance of the composed paint stroke.

51. (Currently Amended) The system of claim 50, wherein:

the first instance and the second instance each corresponds to a keyframe of an animation, the animation having an animation time frame, each keyframe corresponding to a time point in animation time; and

the time value is changed as a function of animation time.

52. (Canceled)

53. (New) The method of claim 26, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.

54. (New) The method of claim 33, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.

55. (New) The computer-readable medium of claim 35, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.

56. (New) The computer-readable medium of claim 42, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.

57. (New) The system of claim 44, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.

58. (New) The system of claim 51, where changing a time value in the second plurality of time values that is associated with a parameter value in the plurality of parameter values further comprises:

applying a distortion function to the time value, where the distortion function takes the time value and a distortion amount as inputs, and outputs a new time value to be associated with the parameter value in the plurality of parameter values.